

REMARKS

The Final Office Action of January 12, 2009 was received and carefully reviewed. Claims 87, 88, 90-92, 123, 124, 126-128, 137, 143 and 149 were pending prior to the instant amendment. By this amendment, claims 87 and 123 are amended. Consequently, claims 87, 88, 90-92, 123, 124, 126-128, 137, 143 and 149 are currently pending in the instant application. Reconsideration and withdrawal of the currently pending rejections are requested for the reasons advanced in detail below.

Claims 87, 88, 90-92, 123, 124, 126-128, 137, 143 and 149 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Independent claims 87 and 123 are currently amended and are believed to overcome the rejection as presently written.

Claims 87, 88, 90 and 92 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takemura (U.S. Patent No. 5,534,716). Claims 91, 123, 124, 126-128, 137, 143 and 149 were rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura in view of Zhang et al. (U.S. 5,403,772, hereinafter “Zhang”). Takemura and Zhang, however, fail to render the claimed invention unpatentable. Each of the claims recite a specific combination of features that distinguishes the invention from the prior art in different ways. At the very least, Takemura and Zhang, whether taken alone or in combination, fail to disclose or suggest any of these exemplary features recited in the claims.

To begin with, Takemura does not disclose the nickel concentrations of “a first thin film transistor provided in a matrix pixel circuit,” and “a second thin film transistor provided in a peripheral driving circuit,” as recited in independent claims 87 and 123. Nevertheless, the Examiner alleges that the nickel concentrations are obvious without a showing that the claimed ranges achieve unexpected results relative to the prior art range, because the

concentration of nickel may be controlled to form a high crystalline semiconductor island, while reducing adverse effects caused by nickel. However, Applicant takes exception to the Examiner's contention based on, at least, the following reasons:

First, the characteristics required for the thin film transistors in the peripheral driving circuit are different from those required for the thin film transistors in the matrix pixel circuit. Specifically, thin film transistors capable of providing high mobility, passing a high ON current therethrough, and operating at a high speed are needed in the peripheral driving circuit. On the other hand, the thin film transistors having a low OFF current are needed in the matrix pixel circuit. In general, in a configuration that allows a high ON current to pass therethrough, the OFF current is also high. In order to provide the thin film transistors having different characteristics from each other, a larger amount of nickel is used for the thin film transistors in the peripheral driving circuit for improved crystallinity; and a smaller amount of nickel is used for the thin film transistors in the matrix pixel circuit. That is, the electrical characteristics of the thin film transistors can be controlled by changing the amount of nickel, and the thin film transistors having different characteristics from each other can be provided over the same substrate.

Although it may seemingly be obvious to control the concentration of nickel for reducing adverse effects caused by nickel, the thin film transistors having different characteristics from each other can not be provided by controlling the amount of nickel uniformly in any circuits. Controlling the amount of nickel according to circuits makes it possible to provide the thin film transistors having different characteristics from each other over the same substrate. Such an advantage is never disclosed or suggested by Takemura. Nor is such an advantage disclosed or fairly suggested by Zhang.

Secondly, Takemura does not disclose "each of said crystalline semiconductor islands of said first and second thin film transistors is formed in a monodomain region which

contains no grain boundary,” as recited in independent claims 87 and 123. In other words, Takemura does not disclose that each of the crystalline semiconductor islands of the thin film transistor provided in the matrix pixel circuit and the thin film transistor provided in the peripheral driving circuit is formed in a monodomain region which contains no grain boundary. Takemura’s semiconductor island in a pixel contains a grain boundary as evidenced, for example, in the written description at column 3, lines 5-7, lines 23-26, and column 4, lines 46-48, lines 52-53. Thus, Takemura teaches **away** from the invention as claimed.

In accordance with the M.P.E.P. § 2143.03, to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 409 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 196 (CCPA 1970). Therefore, it is respectfully submitted that neither Takemura nor Zhang, taken alone or in any proper combination, discloses or suggests the subject matter as recited in independent claims 87 and 123. Hence, withdrawal of the rejection is respectfully requested.

Each of the dependent claims depend from one of independent claims 87 or 123 and are patentable over the cited prior art for at least the same reasons as set forth above with respect to claims 87 and 123.

In addition, each of the dependent claims also recites combinations that are separately patentable.

In view of the foregoing remarks, this claimed invention, as amended, is not rendered obvious in view of the prior art references cited against this application. Applicant therefore requests the entry of this response, the Examiner’s reconsideration and reexamination of the application, and the timely allowance of the pending claims.

In discussing the specification, claims, and drawings in this response, it is to be understood that Applicant in no way intends to limit the scope of the claims to any exemplary embodiments described in the specification and/or shown in the drawings. Rather, Applicant is entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Should the Examiner believe that a telephone conference would expedite issuance of the application, the Examiner is respectfully invited to telephone the undersigned patent agent at (202) 585-8316.

Respectfully submitted,

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